


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 102908	FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/EP2004/003355	International filing date (day/month/year) 30.03.2004	Priority date (day/month/year) 11.04.2003	
International Patent Classification (IPC) or national classification and IPC A47G7/02, D06N7/00, B44F3/00, E04F15/02			
Applicant MILLIKEN INDUSTRIALS LIMITED et al.			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 3 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 18.05.2005		Date of completion of this report 28.07.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Sartor, M Telephone No. +49 89 2399-2793	



INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITYInternational application No.
PCT/EP2004/003355**10/552356****Box No. I Basis of the report**

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the elements* of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-3, 5, 7, 8 as originally filed
 4, 6 received on 18.05.2005 with letter of 18.05.2005

Claims, Numbers

8(part), 9-12 as originally filed
 1-7, 8(part) received on 18.05.2005 with letter of 18.05.2005

Drawings, Sheets

1/5-5/5 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing *(specify)*:
- ☐ any table(s) related to sequence listing *(specify)*:

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing *(specify)*:
- ☐ any table(s) related to sequence listing *(specify)*:

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2004/003355

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2-12
	No: Claims	1
Inventive step (IS)	Yes: Claims	
	No: Claims	2-12
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

- 1.1 From the document US-A-5 959 632 a set of patterned square carpet tiles is known, the set comprising at least two tiles with coordinating pattern and colour, each tile having at least two areas of visual texture applied, said areas providing the impression of at least two pile directions on each tile (see on col. 2, lines 10-14, col.12, line 40-col.13, line 2, col. 15, lines 12-49, figures 11a, 11b, 12a, 12b, 15a-15c).
The subject-matter of claim 1 is therefore already known (Art. 33 (2) PCT).
- 1.2 The subject-matter of claim 1 is also disclosed by BE-A-890 436, page 5, line 3-page 6, line 11, figures 2, 3 and by GB-A-1 537 727, cpage 1, lines 37-47, and page 1, line 75-pag 2, line 41, figures 1-3.
- 2.1 The independent claim 8 does not involve an inventive step in view of US-A-5 959 632 (Art. 33 (3) PCT).
The subject-matter of claim 8 appears moreover to come fully within the skilled knowledge.
- 2.2 The additional features of claims 2-7 and 9-12 represent matter of choice for the skilled man and do not therefore involve an inventive step.
3. The document US-A-5 959 632 should have been cited in the description (Rule 5.1 (a) (ii) PCT).

combination of these effects. One particularly preferred application of the use of visual texture is to simulate the appearance of natural or woven textures by printing onto the surface of the carpet tile. Advantages of the use of visual texture over conventional surface textures are that the visual texture has better appearance retention during use, as it cannot flatten further. Also the application of texture by printing allows more flexibility in the way that textures may be combined with one another in closely adjacent and relatively small areas of the tile surface. In particular visual texture can be used to create pile effects that are oriented differently from the actual pile of the carpet tile. In one embodiment there may be four tiles in a set and the tiles are designed by taking the pattern of one tile and rotating the pattern through substantially 90, 180 and 270 degrees to create the four tiles and then applying the visual textures to the patterned areas of each tile. The tiles are made individual and less directionally significant by the application of the textures. This can be achieved by applying different textures to each tile and by applying at least two directionally significant textures in two orientations so that the four tiles become different from each other and can be turned without this being obvious.

In another embodiment of the invention the set of tiles may include two or more different tile designs and comprises tiles which are designed by creating a set of related tile designs each having a pattern of blocks of at least two colours or shades, which preferably interlock. At least two directionally significant visual textures are then combined with the colours or shades, keeping the original pattern boundaries. A design in which there are two colours, which are then combined with two visual textures, is one variant of this design method. By this incorporation of visual texture having at least two directions in each tile a set of tiles having complex designs are created. When laid these tiles do not require the original pile direction of the tile to be taken into consideration. This allows maximum patterning

The Pinwheel repeat design method, also known as the quarter turn repeat design method, is normally used to create non-directional tile designs by repeating a design in rotated form in the four quadrants of a square tile. If the four quadrants were to be separated from one another then the resulting four half sized tiles would be identical.

Figure 1 shows how a two by two matrix of repeats is used to create the pinwheel repeat design method. The orientation of the top left quarter 1 is unchanged, the top right quarter 2 is rotated 90 degrees to the right, the bottom right quarter 3 is rotated 180 degrees and the bottom left quarter 4 is rotated 270 degrees to the right. Since the Pinwheel repeat design method rotates the working design, this repeat design method requires that the working design be square, with dimensions half those of the carpet tile.

The pinwheel repeat design method is taken and enhanced to create a set of four distinct carpet tiles that, when used in combination, provide a modular carpet installation which has a textural, subtly patterned, appearance. In addition, with this invention, the appearance of the installation is enhanced when the four carpet tiles comprising the set are laid at random within the overall pattern, and when the tile direction is also made random. This is contrary to the norm where the installation appearance is marred if the tile patterns and pile directions are not kept properly aligned.

The starting point for the design process is to create a random, graphic design which will fill a first tile, this graphic is then repeated, but rotated through 90 degrees on the other three quarters, using the pinwheel technique.

Figure 2 shows an example of a suitable random graphic design. In this instance the design contains a large number of lines 21, 22, 23 and 24, which are orthogonal to one another and either parallel to the sides of the carpet tile

CLAIMS

- 1. A set of patterned square carpet tiles, the set comprising a least two tiles with coordinating pattern and color characterized in that each tile has at least two areas of visual texture applied, the areas of visual texture providing the impression of at least two pile directions on each tile.
2. A set of carpet tiles according to claim 1 in which the pattern is applied to the tiles by printing and the visual texture is also applied by printing.
3. A set of carpet tiles according to claim 1 or 2 in which the pattern and the visual texture are applied in a single stage printing operation.
4. A set of carpet tiles according to any preceding claim having four tiles in the set.
5. A set of carpet tiles according to claim 1 or 2, or to claim 4 as appended directly to claim 1 or 2, and having four tiles in the set, in which the tiles are designed by taking the pattern of one tile and rotating the pattern through substantially 90, 180 and 270 degrees to create the four tiles and then applying texture to the patterned areas of each tile.
6. A set of carpet tiles according to claim 5 in which the tiles are made individual by the application of different texture to each tile.
7. A set of carpet tiles according to claim 5 or 6 in which the tiles are made individual by applying to each tile at least two directionally significant visual textures in two orientations.
8. A method of supplying the tiles according to any one of claims 1 to 5, in boxes of identical tiles and then